

1. A method of forming spacers, comprising the steps of:

providing a first substrate having a first surface and a second surface wherein said first substrate is transparent and said first surface of said first substrate and said second surface of said first substrate are parallel to each other;

providing a second substrate having a first surface and a second surface wherein said first surface of said second substrate and said second surface of said second substrate are parallel to each other;

forming a number of opaque pads on said first surface of said first substrate;

forming a first layer of positive photoresist on said first surface of said first substrate after said opaque pads have been formed;

exposing said first layer of positive photoresist by means of a light beam illuminating said second surface of said first substrate thereby using said opaque pads as a mask;

developing said first layer of positive photoresist thereby forming a spacer pad on each said opaque pad;

bringing together said first substrate and said second substrate so that said first surface of said second substrate contacts said spacer pads; and

placing liquid crystal material between said first surface of said first substrate and said first surface of

sub  
AS  
said second substrate.

2. The method of claim 1 further comprising:

5 forming a second layer of positive photoresist on said first surface of said first substrate after said opaque pads have been formed and before said first layer of photoresist has been formed;

10 exposing said second layer of positive photoresist by means of a light beam illuminating said second surface of said first substrate thereby using said opaque pads as a mask; and

developing said second layer of positive photoresist so that only that part of said second layer of photoresist directly over said opaque pads remains.

15

3. The method of claim 2 further comprising:

sub  
AQ  
20 forming a third layer of positive photoresist on said first surface of said first substrate after said opaque pads have been formed and before said second layer of photoresist has been formed;

exposing said third layer of positive photoresist by means of a light beam illuminating said second surface of said first substrate thereby using said opaque pads as a mask; and

25 developing said third layer of positive photoresist so that only that part of said third layer of photoresist

directly over said opaque pads remains.

4. The method of claim 3 further comprising:

forming a fourth layer of positive photoresist on said first surface of said first substrate after said opaque pads have been formed and before said third layer of photoresist has been formed;

exposing said fourth layer of positive photoresist by means of a light beam illuminating said second surface of said first substrate thereby using said opaque pads as a mask; and

developing said fourth layer of positive photoresist so that only that part of said fourth layer of photoresist directly over said opaque pads remains.

5. The method of claim 1 wherein said opaque pads are formed of chromium having a thickness of between about 500 and 1500 Angstroms.

6. The method of claim 1 wherein said opaque pads are formed of molybdenum having a thickness of between about 500 and 1500 Angstroms.

7. The method of claim 1 wherein said opaque pads are formed of aluminum having a thickness of between about 500 and 1500 Angstroms.

7 ~~8~~. The method of claim 1 wherein said opaque pads are formed from black photosensitive material having a thickness of between about 0.1 and 2.0 microns.

5 9. The method of claim ~~1~~ wherein the height of each said opaque pad and spacer pad formed on each said opaque pad is between about 4 and 12 microns.

8 ~~10~~. The method of claim 1 wherein the thickness of said first layer of positive photoresist is between about 1 and 3 microns.

Sub A7 11. The method of claim 2 wherein the thickness of said second layer of positive photoresist is between about 1 and 3 microns.

10 ~~12~~. The method of claim ~~2~~ wherein the thickness of said third layer of positive photoresist is between about 0.5 and 3 microns.

20 11 ~~13~~. The method of claim ~~3~~ wherein the thickness of said fourth layer of positive photoresist is between about 0.2 and 3 microns.

14. A liquid crystal display structure, comprising:

a first substrate having a first surface and a second surface wherein said first substrate is transparent and said first surface of said first substrate and said second surface of said first substrate are parallel to each other;

a number of opaque pads formed on said first surface of said first substrate;

a number of spacer pads wherein one said spacer pad is formed on each said opaque pad;

a second substrate having a first surface and a second surface, wherein said first surface of said second substrate and said second surface of said second substrate are parallel to each other, positioned so that said first surface of said second substrate contacts said spacer pads;

and

a liquid crystal material between said first surface of said first substrate and said first surface of said second substrate.

15. The liquid crystal display structure of claim 14 wherein said spacer pads are formed from a number of layers of positive photoresist.

16. The liquid crystal display structure of claim 15 wherein said number of layers of positive photoresist is 1, 2, 3, or 4.

17. The liquid crystal display structure of claim 15 wherein each said layer of ~~positive~~ photoresist has a thickness of between about 4 and 12 microns.

5 <sup>15</sup>18. The liquid crystal display structure of claim <sup>12</sup>~~14~~ wherein said opaque pads are chromium with a thickness of between about 500 and 1500 Angstroms.

10 <sup>16</sup>~~18~~. The liquid crystal display structure of claim <sup>12</sup>~~14~~ wherein said opaque pads are molybdenum with a thickness of between about 500 and 1500 Angstroms.

15 <sup>17</sup>~~18~~. The liquid crystal display structure of claim <sup>12</sup>~~14~~ wherein said opaque pads are aluminum with a thickness of between about 500 and 1500 Angstroms.

20 <sup>18</sup>~~18~~. The liquid crystal display structure of claim <sup>12</sup>~~14~~ wherein said opaque pads are formed from black photosensitive material having a thickness of between about 0.1 and 2.0 microns.

22. The liquid crystal display structure of claim 14 wherein the height of each said opaque pad and spacer pad formed on each said opaque pad is between about 4 and 12 microns.